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ABSTRACT

Accelerating the modernization of vocational education necessitates fixing the responsibility for vocational teacher professional development. The purpose of the study reported in this paper was to examine perceptions of the Ohio vocational education partners (547 teachers, 511 local administrators, 72 teacher educators, and 76 Division of Vocational and Career Education--DVCE--personnel) regarding the levels of responsibilities that local schools, vocational education teachers, professional organizations, that state Department of Education, industry, and teacher education have for coordinating, delivering, and funding vocational teacher professional development. An additional purpose was to determine the level of agreement in the perceptions regarding these responsibilities based on respondent employment position. A descriptive questionnaire survey was mailed to a total of 1,206 participants, with a 65 percent response rate (788 returned). Statistically significant differences were expected, due to the large number of participants. The responsibility ratings indicate partnership differences regarding perceived professional development responsibilities; for example, although teacher education is generally not viewed as having a high level of responsibility for funding professional development program components, DVCE personnel rated this responsibility significantly higher that did the other partners. It is concluded that since group cooperation is important to program providers, differences among partners should be addressed by the state Department of Education and other policy makers. (Coordination, funding, and delivery results are reported in nine tables on the following professional development program components: preservice degree-granting programs; preservice nondegree-granting programs; supervision of new vocational teachers; vocational teacher basic academic skills and knowledge testing; pedagogy update; technical skills update; general professional information update; curriculum update practices; and research practices update. Eleven references are included.) (NLA)

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Summary of Research

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Responsibilities of Vocational Teacher Education for Ohio Vocational Teacher Professional Development

R. Kirby Barrick and Matthew Hughes

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As mandated by Ohio Amended Substitute Senate Bill 140, the State Board of Education developed a plan for accelerating the modernization of vocational education in the state (State Board of Education, 1990). Included in the plan were 11 imperatives which the board indicated must be addressed if vocational education is to play an integral role in economic development and the overall education system. Among the imperatives identified were: a) "accelerate the professional development of vocational educators" (State Board of Education, 1990, p. 5) and b) "maintain constant emphasis on improving and renewing the vocational education system" (State Board of Education, 1990, p. 6).

Implied in the Ohio plan was the need for a state-wide comprehensive professional development program for vocational teachers. For this study, professional development was defined as planned workshops, correspondence, or other activities designed to improve teachers' technical, pedagogical, or professional skills. Nine components of a comprehensive professional development program were identified in research by Anderson (1988) and the National Center for Research in Vocational Education (Hamilton, 1985). The components were: a) pre-service (degree-granting) programs awarding a bachelors or masters degree in education, b) pre-service (nondegree-granting) programs for individuals entering teaching without an undergraduate teaching degree, c) supervision of new vocational teachers, d) pedagogy update, e) vocational teacher basic academic skills and knowledge testing, f) technical skills update, g) professional information update, h) curriculum update practices providing skills needed to upgrade curricula, and i) research practices update providing skills needed to collect, analyze, and report data appropriate to vocational program improvement.

Miller (1975) identified the "partners" of an education system as teachers, administrators, teacher educators, and state education agency administrative staff. Cooperation among these groups is essential if high quality professional development activities are to result (Wolpert, 1984). In draft recommendations, the National Association of State Directors of Vocational Education expressed the need for cooperation among vocational educators at the local, state, and university levels and called for state-level comprehensive planning of professional development programs (Anderson, 1988). However, Schussler and Testa (1984) stated that "unfortunately there appears to be little collaborative planning among state department, school district, and university

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officials relative to needed changes, division of responsibilities, and timing" (p. 8).

The Holmes Group (1986) emphasized the importance of teacher education involvement in providing professional development activities and called for collaboration between universities and local schools. According to Shinn and Bail (1982), "to maximize the outcomes of inservice and professional development activities, teacher educators must be actively involved" (p. 193). Despite the importance of teacher education involvement, Schussler and Testa (1984) reported that college and university departments of teacher education will likely have a reduced role in the pre-service component of professional development.

Although professional development is viewed as an imperative for vocational teachers, little research has been conducted to clarify the responsibilities that various groups have for providing professional development activities (Anderson, 1988). Evans and Terry (1971) identified five groups that have such responsibilities: a) local schools, b) professional organizations, c) state education agencies, d) businesses or industries which employ vocational education students, and e) institutions of higher education.

Anderson (1988) examined perceived responsibilities of teachers, local schools, state vocational education agency, and teacher education for coordinating, delivering, and funding vocational teacher professional development activities in Idaho. Compared to the other groups, vocational teacher education was perceived by teachers, teacher educators, and state and local-level administrators as having the most responsibility for: a) coordinating, delivering, and funding pre-service (degree-granting) programs; b) delivering pre-service (nondegree-granting) programs, curriculum update, and technical skills update; and c) coordinating and delivering the supervision of new vocational teachers, research update, pedagogy update, and teacher basic academic skills and knowledge testing. Data reported by Anderson indicated that vocational teacher education was perceived as having primary (more than 50%) or sharing major (30% to 50%) responsibility for: a) coordinating, delivering, and funding pre-service (degree-granting) programs, pre-service (nondegree-granting) programs, teacher basic academic skills and knowledge testing, and research update; and b) coordinating and delivering the supervision of new vocational teachers, pedagogy update, technical skills update, and curriculum update.

A necessary step in implementing initiatives designed to meet the goals and objectives of the Ohio vocational education plan was to examine the professional development responsibilities of groups that are involved in professional development either in an administrative or participant capacity. Needed was knowledge of the responsibilities that these groups have for coordinating, delivering, and funding the nine components of a comprehensive professional development program that were identified by Anderson (1988) and the National Center for Research in Vocational Education (Hamilton, 1985).

Purpose and Objectives

The research reported in this paper is part of a larger study which examined the perceptions of the Ohio vocational education partners (vocational education teachers, local vocational education administrators, vocational teacher educators, state Division of Vocational and Career Education) regarding the levels of responsibilities that local schools, vocational education teachers, professional organizations, state Division of Vocational and Career Educa-

tion (DVCE), industry, and teacher education have for coordinating, delivering, and funding the nine professional development program components. The objectives of the study which relate to the reported research are:

1. to identify the perceptions of the Ohio vocational education partners regarding the levels of responsibilities that university and college vocational teacher education departments have for coordinating, delivering, and funding nine components of a state-wide comprehensive professional development program for vocational teachers; and
2. to determine the level of agreement in the perceptions regarding these responsibilities based on respondent employment position.

Procedures and Data Analysis

Descriptive-survey research was used in this study. To accomplish the stated objectives, a questionnaire was mailed to three populations of Ohio vocational education partners and a randomly selected sample of Ohio vocational education teachers teaching during the 1990-91 school year. The populations and sample were: a) vocational teacher educators (N=72); b) local vocational education administrators which included local supervisors of vocational education, local vocational education directors, and vocational education planning district superintendents (N=511); c) DVCE personnel with vocational teacher in-service and pre-service education responsibilities (N=76); and d) vocational education teachers (n=547) for a total of 1206 participants. The researchers chose to use the three populations because of their relatively small numbers and ease of access. The teachers were selected using a cluster sampling technique with vocational education planning districts being the sampling unit. Vocational teachers in 13 randomly selected districts comprised the sample. Because comparisons are made to the sample of vocational teachers, all four respondent groups were treated as samples in the statistical analyses.

The frame for this study was identified using the 1991 Ohio vocational teacher education directory and current DVCE mailing lists of teachers, administrators, and DVCE personnel. Duplications were purged from the lists to avoid selection error.

The survey instrument was modeled on the instrument developed by Anderson (1988) for the previously cited Idaho study. Content validity of the survey instrument was assured through a review and revision process involving vocational teacher educators and former vocational teachers. Instrument reliability was established by calculating a post hoc Cronbach's alpha for each group of questionnaire items measuring perceived levels of coordination, delivery, and funding responsibilities. Reliability coefficients related to perceived vocational teacher education responsibilities were: .69 for items measuring delivery responsibilities, .71 for items measuring coordination responsibilities, and .78 for items measuring funding responsibilities.

The vocational education partners indicated their perceptions of the responsibility levels that vocational teacher education has for coordinating, delivering, and funding the nine professional development program components by assigning teacher education a score of two to indicate primary responsibility (more than 50%), one to indicate a shared major responsibility (30% to 50%), or zero to indicate minor or no responsibility (less than 30%). Partners rated the level of coordination, delivery, and funding responsibility of teacher education in each of the components. One-way analysis of

variance (ANOVA) and Tukey post hoc analyses were conducted to indicate differences in partner perceptions.

Data were collected during April and May, 1991. Each survey participant received a cover letter, questionnaire, and a stamped return envelope. Following a mailed reminder and a second questionnaire to nonrespondents, 788 questionnaires (65%) were returned. Response rate ranged from 50% for teachers to 78% for teacher educators. Further follow up of teachers was inhibited by the closing of schools for summer break. Early and late respondents were compared on selected responses to the questionnaire by using a t-test. No significant differences were found at alpha .05; therefore, the responses are generalized to the populations and sample (Miller and Smith, 1983).

Results

Results are reported by professional development program component and are illustrated in Tables 1 - 9. To aid in readability, the four partners are referred to as teachers, local administrators, teacher educators, and DVCE personnel.

Preservice (Degree-granting) Programs

The mean **coordination** responsibility ratings assigned to vocational teacher education by teachers and local administrators were 1.21 and 1.37, respectively (see Table 1). Mean ratings assigned by DVCE personnel and teacher educators were 1.70 and 1.82, respectively. One-way ANOVA produced an F ratio of 12.35 ($p<.05$ at 3,660 df). Tukey post hoc analysis indicated statistically significantly differences in the mean rating scores between: a) teachers and local administrators, b) teachers and teacher educators, c) teachers and DVCE personnel, d) local administrators and teacher educators, and e) local administrators and DVCE personnel.

Teachers assigned vocational

Table 1

MEAN RESPONSIBILITY RATINGS ASSIGNED TO VOCATIONAL TEACHER EDUCATION FOR COORDINATING, DELIVERING, AND FUNDING PRE-SERVICE (DEGREE-GRANTING) PROGRAMS

Respondent Groups	Responsibility Categories		
	Coordinate	Deliver	Fund
Vocational Teachers	1.21abc (0.82)	1.51abc (0.78)	.49a (0.78)
Local Voc. Educ. Administrators	1.37ade (0.80)	1.82a (0.53)	.44b (0.75)
Voc. Teacher Educators	1.82bd (0.48)	1.95c (0.23)	1.16 (0.94)
DVCE Personnel	1.70ce (0.68)	1.90b (0.42)	1.08ab (0.93)

Note: Means denoted by same letters in columns are significantly different at alpha .05. Standard deviations are in parentheses below corresponding means.

Responsibility Rating Scale
0 = no or minor responsibility (less than 30%); 1 = shared major responsibility (30% to 50%); 2 = primary responsibility (more than 50%)

teacher education a mean **delivery** responsibility rating of 1.51. Local administrators, DVCE personnel, and teacher educators assigned mean ratings of 1.82, 1.90, and 1.95, respectively. One-way ANOVA produced an F ratio of 16.51 ($p<.05$ at 3,659 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and local administrators, b) teachers and teacher educators, and c) teachers and DVCE personnel.

The mean **funding** responsibility ratings assigned to vocational teacher education by local administrators and teachers were .44 and .49, respectively. DVCE personnel and teacher educators assigned mean ratings of 1.08 and 1.16, respectively. One-way ANOVA produced an F ratio of 20.24 ($p<.05$ at 3,656 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and DVCE personnel, b) teachers and teacher educators, c) local administrators and DVCE personnel, and d) local administrators and teacher educators.

Preservice (Nondegree-granting) Programs

Mean **coordination** responsibility ratings assigned to vocational teacher education by teachers, local administrators, and DVCE personnel were .91, 1.10, and 1.18, respectively (see Table 2). Teacher educators assigned a mean rating of 1.44. One-way ANOVA produced an F ratio of 7.06 ($p<.05$ at 3,656 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and local administrators, b) teachers and teacher educators, and c) local administrators and teacher educators.

Teachers assigned vocational teacher education a mean **delivery** responsibility rating of 1.19. Local administrators, DVCE personnel, and teacher educators assigned mean ratings of 1.56, 1.62, and 1.74, respectively. One-way ANOVA produced an F ratio of 13.84 ($p<.05$ at 3,656 df). Tukey post hoc analysis indicated statisti-

Table 2

MEAN RESPONSIBILITY RATINGS ASSIGNED TO VOCATIONAL TEACHER EDUCATION FOR COORDINATING, DELIVERING, AND FUNDING PRE-SERVICE (NONDEGREE-GRANTING) PROGRAMS

	Responsibility Categories		
Respondent Groups	Coordinate	Deliver	Fund
Vocational Teachers	.91ab (0.86)	1.19abc (0.88)	.35a (0.67)
Local Voc. Educ. Administrators	1.10ac (0.81)	1.56a (0.76)	.32b (0.65)
Voc. Teacher Educators	1.44bc (0.72)	1.74c (0.62)	.46 (0.75)
DVCE Personnel	1.18 (0.80)	1.62b (0.75)	.71ab (0.87)

cally significant differences in the mean ratings between: a) teachers and local administrators, b) teachers and DVCE personnel, and c) teachers and teacher educators.

Local administrators, teachers, and teacher educators assigned vocational teacher education mean **funding** responsibility ratings of .32, .35, and .46, respectively. DVCE personnel assigned a mean rating of .71. One-way ANOVA produced an F ratio of 5.09 ($p<.05$ at 3,652 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and DVCE personnel and b) local administrators and DVCE personnel.

Supervision of New Vocational Teachers

DVCE personnel, teachers, and local administrators assigned vocational teacher education mean **coordination** responsibility ratings of .76, .79, and .95, respectively. Teacher educators assigned a mean rating of 1.26. One-way ANOVA produced an F ratio of 5.80 ($p<.05$ at 3,664 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and local administrators, b) teachers and teacher educators, c) local administrators and teacher educators, and d) DVCE personnel and teacher educators.

Teachers, DVCE personnel, and local administrators assigned vocational teacher education mean **delivery** responsibility ratings of .90, 1.08, and 1.09, respectively. Teacher educators assigned mean rating of 1.37. One-way ANOVA produced an F ratio of 5.35 ($p<.05$ at 3,659 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and local administrators and b) teachers and teacher educators.

Table 3

MEAN RESPONSIBILITY RATINGS ASSIGNED TO VOCATIONAL TEACHER EDUCATION FOR COORDINATING, DELIVERING, AND FUNDING THE SUPERVISION OF NEW VOCATIONAL TEACHERS

	Responsibility Categories		
Respondent Groups	Coordinate	Deliver	Fund
Vocational Teachers	.79ab (0.85)	.90ab (0.91)	.32 (0.65)
Local Voc. Educ. Administrators	.95ac (0.82)	1.09a (0.82)	.42 (0.68)
Voc. Teacher Educators	1.26bcd (0.87)	1.37b (0.83)	.41 (0.74)
DVCE Personnel	.76c (0.80)	1.08 (0.88)	.53 (0.76)

Note for Tables 2 & 3: Means denoted by same letters in columns are significantly different at alpha .05. Standard deviations are in parentheses below corresponding means.

Responsibility Rating Scale
0 = no or minor responsibility (less than 30%); 1 = shared major responsibility (30% to 50%)
2 = primary responsibility (more than 50%)

Teachers, teacher educators, and local administrators assigned vocational teacher education mean **funding** responsibility ratings of .32, .41, and .42, respectively. DVCE personnel assigned a mean rating of .53. One-way ANOVA produced an F ratio of 1.77 which indicated no statistically significant differences in the means at alpha .05.

Vocational Teacher Basic Academic Skills and Knowledge Testing

Teachers, local administrators, and teacher educators assigned vocational teacher education mean **coordination** responsibility ratings of .97, 1.03, and 1.08, respectively (see Table 4). DVCE personnel assigned a mean rating of 1.31. One-way ANOVA produced an F ratio of 2.10 which indicated no statistically significant differences in the means at alpha .05.

Teachers assigned vocational teacher education a mean **delivery** responsibility rating of 1.04. Local administrators, teacher educators, and DVCE personnel assigned mean ratings of 1.34, 1.40, and 1.56, respectively. One-way ANOVA produced an F ratio of 8.31 ($p<.05$ at 3,661 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and local administrators, b) teachers and teacher educators, and c) teachers and DVCE personnel.

Both teachers and teacher educators assigned vocational teacher education a mean **funding** responsibility rating of .47. Local administrators and DVCE personnel assigned mean ratings of .42 and .65, respectively. One-way ANOVA produced an F ratio of 1.36 which indicated no statistically significant differences in the means at alpha .05.

Pedagogy Update

Mean **coordination** responsibility ratings assigned by teachers and local administrators were .80 and .98, respectively. DVCE personnel and teacher educators assigned mean ratings of 1.30 and 1.45, respectively (see Table 5). One-way ANOVA produced an F ratio of 11.30 ($p<.05$ at 3,648 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and local ad-

Table 4

MEAN RESPONSIBILITY RATINGS ASSIGNED TO VOCATIONAL TEACHER EDUCATION FOR COORDINATING, DELIVERING, AND FUNDING VOCATIONAL TEACHER BASIC ACADEMIC SKILLS AND KNOWLEDGE TESTING

	Responsibility Categories		
Respondent Groups	Coordinate	Deliver	Fund
Vocational Teachers	.97 (0.91)	1.04abc (0.96)	.47 (0.78)
Local Voc. Educ. Administrators	1.03 (0.86)	1.34a (0.83)	.42 (0.71)
Voc. Teacher Educators	1.08 (0.83)	1.40b (0.86)	.47 (0.75)
DVCE Personnel	1.31 (0.80)	1.56c (0.76)	.65 (0.90)

ministrators, b) teachers and DVCE personnel, c) teachers and teacher educators, d) local administrators and teacher educators, and e) local administrators and DVCE personnel.

Teachers and local administrators assigned vocational teacher education mean **delivery** responsibility ratings of 1.09 and 1.29, respectively. DVCE personnel and teacher educators assigned mean ratings of 1.55 and 1.74, respectively. One-way ANOVA produced an F ratio of 10.55 ($p<.05$ at 3,654 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and local administrators, b) teachers and teacher educators, c) teachers and DVCE personnel, and d) local administrators and teacher educators.

Teachers and local administrators assigned vocational teacher education mean **funding** responsibility ratings of .26 and .33, respectively. DVCE personnel and teacher educators assigned mean ratings of .45 and .68, respectively. One-way ANOVA produced an F ratio of 6.04 ($p<.05$ at 3,656 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and teacher educators and b) local administrators and teacher educators.

Technical Skills Update

Local administrators, teachers, and DVCE personnel assigned vocational teacher education mean **coordination** responsibility ratings of .51, .55, and .60, respectively (see Table 6). Teacher educators assigned a mean rating of .83. One-way ANOVA produced an F ratio of 2.46 which indicated no statistically significant differences in the means at alpha .05.

Table 5

MEAN RESPONSIBILITY RATINGS ASSIGNED TO VOCATIONAL TEACHER EDUCATION FOR COORDINATING, DELIVERING, AND FUNDING PEDAGOGY UPDATE

	Responsibility Categories		
Respondent Groups	Coordinate	Deliver	Fund
Vocational Teachers	.80abc (0.84)	1.09abc (0.91)	.26a (0.57)
Local Voc. Educ. Administrators	.98ade (0.87)	1.29ad (0.86)	.33b (0.67)
Voc. Teacher Educators	1.45bd (0.72)	1.74bd (0.59)	.68ab (0.92)
DVCE Personnel	1.30ce (0.86)	1.55c (0.71)	.45 (0.79)

Note for Tables 4 & 5: Means denoted by same letters in columns are significantly different at alpha .05. Standard deviations are in parentheses below corresponding means.

Responsibility Rating Scale
0 = no or minor responsibility (less than 30%);1 = shared major responsibility (30% to 50%)
2 = primary responsibility (more than 50%)

Local administrators, teachers, and DVCE personnel assigned vocational teacher education mean **delivery** responsibility ratings of .73, .75, and .81, respectively. Teacher educators assigned a mean rating of .98. One-way ANOVA produced an F ratio of 1.30 which indicated no statistically significant differences in the means at alpha .05.

Local administrators, teachers, and teacher educators assigned vocational teacher education mean **funding** responsibility ratings of .17, .18, and .26, respectively. DVCE personnel assigned a mean rating of .35. One-way ANOVA produced an F ratio of 1.95 which indicated no statistically significant differences between means at alpha .05.

General Professional Information Update

Local administrators, teachers, and DVCE personnel assigned vocational teacher education mean **coordination** responsibility ratings of .46, .47, and .48, respectively. Teacher educators assigned a mean rating of .74 (see Table 7). One-way ANOVA produced an F ratio of 2.50, which indicated no statistically significant differences in the means at alpha .05.

Both teachers and DVCE personnel assigned vocational teacher education mean **delivery** responsibility ratings of .58. Local administrators and teacher educators assigned mean ratings of .65 and .91, respectively. One-way ANOVA produced an F ratio of 2.61 which indicated no statistically significant differences in the means at alpha .05.

Teachers and local administrators assigned vocational teacher education mean **funding** ratings of .16 and .19, respectively. Teacher educators and DVCE personnel assigned mean ratings of .28 and .29, respectively. One-way ANOVA produced an F ratio of 1.52 which indicated no statistically significant differences in the means at alpha .05.

Curriculum Update Practices

Teachers and local administrators assigned vocation teacher education mean **coordination** responsibility ratings of .65

Table 6

MEAN RESPONSIBILITY RATINGS ASSIGNED TO VOCATIONAL TEACHER EDUCATION FOR COORDINATING, DELIVERING, AND FUNDING TECHNICAL SKILLS UPDATE

	Responsibility Categories		
Respondent Groups	Coordinate	Deliver	Fund
Vocational Teachers	.55 (0.80)	.75 (0.88)	.18 (0.47)
Local Voc. Educ. Administrators	.51 (0.79)	.73 (0.87)	.17 (0.51)
Voc. Teacher Educators	.83 (0.87)	.98 (0.91)	.26 (0.62)
DVCE Personnel	.60 (0.87)	.81 (0.91)	.35 (0.76)

Table 7

MEAN RESPONSIBILITY RATINGS ASSIGNED TO VOCATIONAL TEACHER EDUCATION FOR COORDINATING, DELIVERING, AND FUNDING GENERAL PROFESSIONAL INFORMATION UPDATE

	Responsibility Categories		
Respondent Groups	Coordinate	Deliver	Fund
Vocational Teachers	.47 (0.72)	.58 (0.81)	.16 (0.43)
Local Voc. Educ. Administrators	.46 (0.69)	.65 (0.81)	.19 (0.48)
Voc. Teacher Educators	.74 (0.81)	.91 (0.90)	.28 (0.57)
DVCE Personnel	.48 (0.74)	.58 (0.82)	.29 (0.68)

Note for Tables 6 & 7: Means denoted by same letters in columns are significantly different at alpha .05. Standard deviations are in parentheses below corresponding means.

Responsibility Rating Scale
0 = no or minor responsibility (less than 30%); 1 = shared major responsibility (30% to 50%);
2 = primary responsibility (more than 50%)

and .66, respectively (see Table 8). DVCE personnel and teacher educators assigned mean ratings of .92 and .94, respectively. One-way ANOVA produced an F ratio of 3.39 ($p<.05$ at 3,657 df). However, Tukey post hoc analysis indicated no statistically significant differences in the means at alpha .05.

Table 8

MEAN RESPONSIBILITY RATINGS ASSIGNED TO VOCATIONAL TEACHER EDUCATION FOR COORDINATING, DELIVERING, AND FUNDING CURRICULUM UPDATE PRACTICES

	Responsibility Categories		
Respondent Groups	Coordinate	Deliver	Fund
Vocational Teachers	.65 (0.81)	.80ab (0.88)	.22a (0.52)
Local Voc. Educ. Administrators	.66 (0.79)	.85cd (0.87)	.16b (0.46)
Voc. Teacher Educators	.94 (0.81)	1.48ac (0.73)	.64 (0.64)
DVCE Personnel	.92 (0.83)	1.20bd (0.89)	.53ab (0.82)

Teachers and local administrators assigned vocational teacher education mean **delivery** responsibility ratings of .80 and .85, respectively. DVCE personnel and teacher educators assigned mean ratings of 1.20 and 1.48, respectively. One-way ANOVA produced an F ratio of 11.44 ($p<.05$ at 3,652 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and teacher educators, b) teachers and DVCE personnel, c) local administrators and teacher educators, and d) local administrators and DVCE personnel.

Local administrators, teachers, and teacher educators assigned vocational teacher education mean **funding** responsibility ratings of .16, .22, and .30, respectively. DVCE personnel assigned a mean rating of .53. One-way ANOVA produced an F ratio of 7.30 ($p<.05$ at 3,658 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and DVCE personnel and b) local administrators and DVCE personnel.

Research Practices Update

Teachers, local administrators, and teacher educators assigned vocational teacher education mean **coordination** responsibility ratings of .92, 1.30, and 1.40, respectively (see Table 9). DVCE personnel assigned a mean rating of 1.71. One-way ANOVA produced an F ratio of 17.36 ($p<.05$ at 3,657 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and local administrators, b) teachers and teacher educators, c) teachers and DVCE personnel, and d) local administrators and DVCE personnel.

Teachers assigned vocational teacher education a mean **delivery** respon-

Table 9

MEAN RESPONSIBILITY RATINGS ASSIGNED TO VOCATIONAL TEACHER EDUCATION FOR COORDINATING, DELIVERING, AND FUNDING RESEARCH PRACTICES UPDATE

	Responsibility Categories		
Respondent Groups	**Coordinate**	**Deliver**	**Fund**
Vocational Teachers	.92abc (0.87)	1.04abc (0.90)	.49ab (0.74)
Local Voc. Educ. Administrators	1.30ad (0.87)	1.44 (0.83)	.75ac (0.89)
Voc. Teacher Educators	1.40b (0.79)	1.62b (0.74)	.72d (0.89)
DVCE Personnel (0.65)	1.71cd (0.64)	1.72c (0.94)	1.24bcd

Note for Tables 8 & 9: Means denoted by same letters in columns are significantly different at alpha .05. Standard deviations are in parentheses below corresponding means.

Responsibility Rating Scale
0 = no or minor responsibility (less than 30%); 1 = shared major responsibility (30% to 50%);
2 = primary responsibility (more than 50%)

sibility rating of 1.04. Local administrators, teacher educators, and DVCE personnel assigned mean ratings of 1.44, 1.62, and 1.72, respectively. One-way ANOVA produced an F ratio of 18.31 ($p<.05$ at 3,659 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and local administrators, b) teachers and teacher educators, and c) teachers and DVCE personnel.

Teachers assigned vocational teacher education a mean funding responsibility rating of .49. Teacher educators, local administrators, and DVCE personnel assigned mean ratings of .72, .75, and 1.24, respectively. One-way ANOVA produced an F ratio of 12.77 ($p<.05$ at 3,656 df). Tukey post hoc analysis indicated statistically significant differences in the mean ratings between: a) teachers and local administrators, b) teachers and DVCE personnel, c) local administrators and DVCE personnel, and d) teacher educators and DVCE personnel.

CONCLUSIONS

Conclusions apply to the Ohio vocational education partners (vocational teachers, local vocational education administrators, vocational teacher educators, and DVCE personnel with responsibilities for providing professional development activities). The reader is urged to use caution when drawing conclusions based on the results due to the relatively low response rate. Conclusions are reported with the acknowledgment of potential non-response error.

Based on the results, university and college vocational teacher education departments are perceived by the partners to have higher levels of responsibility for coordinating and delivering components of a comprehensive professional development program than for funding the components. Vocational teacher education is generally perceived by the partners to have major or primary levels of responsibility for: a) coordinating, delivering, and funding pre-service (degree-granting) programs; b) coordinating and delivering pre-service (nondegree-granting) programs, supervision of new vocational teachers, teacher basic academic skills and knowledge testing, pedagogy update, technical skills update, and curriculum update; and c) delivering general professional information update.

Tukey post hoc analyses indicated differences in perceptions among the partners. The following conclusions are based on practical differences noted in the mean responsibility ratings assigned to vocational teacher education.

1. Compared to teachers and local administrators:
   - teacher educators and DVCE personnel perceive vocational teacher education to have a higher level of responsibility for coordinating and funding pre-service (degree-granting) programs, coordinating pedagogy update, and delivering curriculum update practices;
   - teacher educators perceive vocational teacher education to have a higher level of responsibility for coordinating pre-service (nondegree-granting) programs and delivering and funding pedagogy update; and
   - DVCE personnel perceive vocational teacher education to have a higher level of responsibility for funding pre-service (nondegree-granting) programs and curriculum update practices, and coordinating research practices update.
2. Compared to teachers:
   - teacher educators and DVCE personnel perceive vocational teacher education to have a higher level of re-

sponsibility for delivering pedagogy update;

- teacher educators perceive vocational teacher education to have a higher level of responsibility for delivering the supervision of new vocational teachers;
- DVCE personnel perceive vocational teacher education to have a higher level of responsibility for delivering vocational teacher basic academic skills and knowledge testing;
- local administrators and DVCE personnel perceive vocational teacher education to have a higher level of responsibility for funding research practices update; and
- local administrators, teacher educators, and DVCE personnel perceive vocational teacher education to have a higher level of responsibility for coordinating and delivering research practices update and delivering pre-service (degree-granting) programs, pre-service (nondegree-granting) programs, and teacher basic academic skills and knowledge testing.

3. Compared to the other respondent groups:
   - teacher educators perceive vocational teacher education to have a higher level of responsibility for coordinating the supervision of new vocational teachers; and
   - DVCE personnel perceive vocational teacher education to have a higher level of responsibility for funding research practices update.

Discussion and Recommendations

Statistically significant differences noted among many of the mean ratings were expected, in part, due to the large number of subjects in the samples. Not all differences are of practical significance. Those means which differ in practical terms indicate a division between local-level (vocational teachers and local vocational education administrators) and state-level (vocational teacher educators and DVCE personnel) respondents. This division is illustrated by comparing the mean ratings assigned by the local-level partners to the mean ratings assigned by state-level partners. Local-level partners rated vocational teacher education responsibility levels lower than did state-level partners in 21 of the 27 (three responsibilities in nine components) rating categories. While not all differences are statistically significant, there is a definite pattern to the ratings.

The responsibility ratings indicate differences among the partners regarding perceived professional development responsibilities of teacher education. These differences may be due to a lack of understanding of what the role of teacher education is or should be. The differences may indicate that there is more than one method of efficiently providing professional development activities with groups and individuals assuming roles that traditionally have been held by others. The differing perceptions may be indicative of dissatisfaction at the local level in the performance of vocational teacher education or perhaps a "local versus state" conflict. An examination of perceptions regarding the professional development program responsibilities of the DVCE would provide insight.

The results of this study are similar to those reported by Anderson (1988) regarding professional development program responsibility levels of vocational teacher education in Idaho. In Idaho and Ohio, vocational teacher education is generally perceived to have major or primary levels of responsibility for: a) pre-service (degree-granting) programs, b) pre-service (nondegree-granting) programs, c) research

update, d) supervision of new vocational teachers, e) pedagogy update, f) teacher basic academic skills and knowledge testing, g) technical skills update, and h) curriculum update. Similar studies are recommended in other states since professional development policies and practices vary among states.

Despite the belief expressed by Schussler and Testa (1984) that college and university departments of teacher education will probably have a reduced role in teacher preparation activities, vocational teacher education is viewed as having relatively high levels of responsibility for providing those professional development program components related teacher preparation. A follow up to this study would be useful in identifying any changes in perceptions regarding the responsibilities of vocational teacher education in the pre-service components.

Although vocational teacher education is generally not viewed as having a high level of responsibility for funding professional development program components, the DVCE personnel rated the funding responsibility higher than did the other partners in seven of the nine components. A suggested follow up to this study is to investigate current funding patterns of professional development activities and how they differ from reported perceptions.

The importance of cooperation among those groups charged with providing professional development activities has been stated (Wolpert, 1984; Holmes Group, 1986; Anderson, 1988). Prior to implementing a comprehensive professional development program in Ohio, the vocational education partners must reach agreement regarding roles and responsibilities. Differences among partners should be addressed by the state Department of Education and other policy makers which have professional development responsibilities. All partners should have meaningful input into the development of a professional development program.

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SUMMARY OF RESEARCH SERIES

Accelerating the modernization of vocational education necessitates fixing the responsibility for vocational teacher professional development. This study examines the perceptions of the Ohio vocational education partners (vocational education teachers, local vocational education administrators, vocational teacher educators, and state Division of Vocational and Career Education) regarding the levels of responsibilities that local schools, vocational education teachers, professional organizations, state department of education, industry, and teacher education have for coordinating, delivering, and funding vocational teacher professional development. This study should be of interest to vocational education administrators and teacher educators who are planning, funding, and delivering professional development programs.

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Research has been an important function of the Department of Agricultural Education since it was established in 1917. Scholarly activities conducted by the Department have generally been in the form of graduate theses, staff studies, funded research, and synthesis of previous research. It is the purpose of this series to make useful knowledge from such research and synthesis available to practitioners in the profession. Individuals desiring additional information on this topic should examine the references cited.

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